

In this range, there are two criteria groups: the first displays the records of students who scored above a 75% in every homework, and the second displays records of any student named Ferdinand. Figure 471 displays the result of this filter operation using these criteria:

	A	B	C	D	E	F	G	H
1	Student	HW #1	HW #2	HW #3	Quiz #1	Quiz #2	Test #1	Average
2	Andrew	90	100	82	90	88	92	90.33
3	Bethany	95	100	82	80	88	93	89.67
6	Emily	100	100	81	100	75	94	91.67
7	Ferdinand	85	93	73	60	50	72	72.17
9	Haley	85	93	82	70	75	76	80.17
10	Ian	100	100	91	90	100	96	96.17
12								

Figure 471: Grading sheet example filtered using an advanced filter

Using an advanced filter with macros

Applying an advanced filter with a macro works similarly to setting up a standard filter. The key difference is that the cell range containing the filter criteria is used to create the filter descriptor. The macro in Listing 27 demonstrates how this is done using the `createFilterDescriptorByObject` method. It uses the grading sheet example in Figure 452 as the data range and the range in Figure 470 as the criteria range. The results should be the same as those found in Figure 471:

Listing 27: `AdvancedRangeFilter` creates a filter descriptor from the filter criteria range

```
Sub AdvancedRangeFilter()
    Dim oSheet      'A sheet from the Calc document.
    Dim oRanges     'The NamedRanges property.
    Dim oCritRange  'Range that contains the filter criteria.
    Dim oDataRange  'Range that contains the data to filter.
    Dim oFiltDesc   'Filter descriptor.

    REM Range that contains the filter criteria
    oSheet = ThisComponent.getSheets().getByIndex(1)
    oCritRange = oSheet.getCellRangeByName("A1:H3")

    REM You can also obtain the range containing the
    REM filter criteria from a named range.
    REM oRanges = ThisComponent.NamedRanges
    REM oRange = oRanges.getByName("AverageLess80")
    REM oCritRange = oRange.getReferredCells()

    REM The data that you want to filter
    oSheet = ThisComponent.getSheets().getByIndex(0)
    oDataRange = oSheet.getCellRangeByName("A1:H11")

    oFiltDesc = oCritRange.createFilterDescriptorByObject(oDataRange)
    oDataRange.filter(oFiltDesc)
End Sub
```